APS

09/003,574

=> d his

(FILE 'USPAT' ENTERED AT 10:03:36 ON 01 MAR 1999)

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L1            2 S ASTACIN METALLOENDOPEPTIDASE
L2           21 S ASTACIN
L3          712 S DIROFILAR? OR IMMIT?
L4           22 S ?ASTACIN?
L5        14856 S ?PROTEASE?
L6         5281 S ?PEPTIDASE?
L7         5831 S PROTEOLY?(3A) ENZYM?

=> s l3 (25a) (l4 or l5 or l6 or l7)

L8           13 L3 (25A) (L4 OR L5 OR L6 OR L7)

=> d bib ab l8 1-13
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US PAT NO: 5,866,126 [IMAGE AVAILABLE] L8: 1 of 13
DATE ISSUED: Feb. 2, 1999
TITLE: Dirofilaria immitis GP29 antibodies and uses thereof
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/833,622
DATE FILED: Apr. 8, 1997
ART-UNIT: 165
PRIM-EXMR: Anthony C. Caputa
ASST-EXMR: Mark Navarro
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,866,126 [IMAGE AVAILABLE] L8: 1 of 13

ABSTRACT:
The present invention relates to D. immitis Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of D. immitis glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,863,775 [IMAGE AVAILABLE] L8: 2 of 13
DATE ISSUED: Jan. 26, 1999
TITLE: Control of parasites
INVENTOR: Howard John Atkinson, Leeds, Great Britain
Vas Michael Koritsas, Leeds, Great Britain
Donald Lewis Lee, Leeds, Great Britain
Andrew Neilson MacGregor, Canterbury, Great Britain
Judith Elizabeth Smith, Leeds, Great Britain
ASSIGNEE: The University of Leeds, Leeds, England (foreign corp.)
APPL-NO: 08/702,682
DATE FILED: Dec. 20, 1996

ART-UNIT: 191
PRIM-EXMR: Nancy Degen
LEGAL-REP: William A. Barrett, Steven J. Hultquist

US PAT NO: 5,863,775 [IMAGE AVAILABLE] L8: 2 of 13

ABSTRACT:

The invention relates to a method of combating an animal parasite in a host which comprises delivering an anti-parasitic protein to the parasite or to a locus thereof by administering the protein to the host animal as a medicament or as a food. The anti-parasitic protein may be an inhibitor of an enzyme of the parasite, for example an inhibitor of a digestive enzyme such as a cysteine protease inhibitor. The parasite may be a helminth or a protozoan, for example, a nematode. According to one embodiment the anti-parasitic protein is expressed in a transgenic plant which may be a dietary crop for the host animal.

US PAT NO: 5,795,768 [IMAGE AVAILABLE] L8: 3 of 13
DATE ISSUED: Aug. 18, 1998
TITLE: Filariid nematode cysteine protease proteins, nucleic acid molecules and uses thereof
INVENTOR: Cynthia Ann Tripp, Fort Collins, CO
Nancy Wisnewski, Fort Collins, CO
Robert B. Grieve, Fort Collins, CO
Glenn R. Frank, Wellington, CO
ASSIGNEE: Heska Corporation, Fort Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Fort Collins, CO (U.S. corp.)
APPL-NO: 08/486,036
DATE FILED: Jun. 7, 1995
ART-UNIT: 164
PRIM-EXMR: Bradley L. Sisson
LEGAL-REP: Heska CorporationColorado State University Research Foundation

US PAT NO: 5,795,768 [IMAGE AVAILABLE] L8: 3 of 13

ABSTRACT:
The present invention provides for filariid nematode cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid molecules, in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid molecules and Onchocerca volvulus L3 larval cysteine **protease** nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by parasitic helminths.

US PAT NO: 5,792,624 [IMAGE AVAILABLE] L8: 4 of 13
DATE ISSUED: Aug. 11, 1998
TITLE: **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof
INVENTOR: Cynthia Ann Tripp, Fort Collins, CO
Nancy Wisnewski, Fort Collins, CO
Robert B. Grieve, Fort Collins, CO
Glenn R. Frank, Wellington, CO
Jennifer K. Richer, Denver, CO
ASSIGNEE: Heska Corporation, Fort Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Fort

Collins, CO (U.S. corp.)
APPL-NO: 08/482,282
DATE FILED: Jun. 7, 1995
ART-UNIT: 164
PRIM-EXMR: Bradley L. Sisson
LEGAL-REP: Heska CorporationColorado State University Research Foundation

US PAT NO: 5,792,624 [IMAGE AVAILABLE] L8: 4 of 13

ABSTRACT:
The present invention provides for filariid nematode cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid molecules, in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid molecules and Onchocerca volvulus L3 larval cysteine **protease** nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by parasitic helminths.

US PAT NO: 5,750,391 [IMAGE AVAILABLE] L8: 5 of 13
DATE ISSUED: May 12, 1998
TITLE: Filariid nematode cysteine protease proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn R. Frank, Ft. Collins, CO
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/463,989
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Robert A. Wax
ASST-EXMR: Kawai Lau
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,750,391 [IMAGE AVAILABLE] L8: 5 of 13

ABSTRACT:
The present invention relates to parasite astacin metalloendopeptidase and filariid cysteine protease proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and compounds that can inhibit the activities of parasite astacin metalloendopeptidases or cysteine proteases. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasites, such as heartworm.

US PAT NO: 5,714,484 [IMAGE AVAILABLE] L8: 6 of 13
DATE ISSUED: Feb. 3, 1998
TITLE: .alpha.-(1,3-dicarbonylenol ether) methyl ketones as cysteine protease inhibitors
INVENTOR: Mary P. Zimmerman, Pleasonton, CA
Robert E. Smith, Livermore, CA
Mark Becker, Walnut Creek, CA
ASSIGNEE: Prototek, Inc., Dublin, CA (U.S. corp.)
APPL-NO: 08/481,808
DATE FILED: Jun. 7, 1995
ART-UNIT: 122

PRIM-EXMR: Mukuno J. Shah
ASST-EXMR: Tamthom T. Ngo
LEGAL-REP: Woodard, Emhardt, Naughton, Moriarty & McNett

US PAT NO: 5,714,484 [IMAGE AVAILABLE] L8: 6 of 13

ABSTRACT:
Cysteine protease inhibitors which deactivate the protease by covalently bonding to the cysteine protease and releasing the enolate of a 1,3-dicarbonyl (or its enolic form). The cysteine protease inhibitors of the present invention accordingly comprise a first portion which targets a desired cysteine protease and positions the inhibitor near the thiolate anion portion of the active site of the protease, and a second portion which covalently bonds to the cysteine protease and irreversibly deactivates that protease by providing a carbonyl or carbonyl-equivalent which is attacked by the thiolate anion of the active site of the cysteine protease to sequentially cleave a .beta.-dicarbonyl enol ether leaving group.

US PAT NO: 5,691,186 [IMAGE AVAILABLE] L8: 7 of 13
DATE ISSUED: Nov. 25, 1997
TITLE: Filariid cysteine protease genes
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn R. Frank, Ft. Collins, CO
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/463,262
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Robert A. Wax
ASST-EXMR: Kawai Lau
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,691,186 [IMAGE AVAILABLE] L8: 7 of 13

ABSTRACT:
The present invention relates to parasite astacin metalloendopeptidase and filariid cysteine protease proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and compounds that can inhibit the activities of parasite astacin metalloendopeptidases or cysteine proteases. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasites, such as heartworm.

US PAT NO: 5,686,080 [IMAGE AVAILABLE] L8: 8 of 13
DATE ISSUED: Nov. 11, 1997
TITLE: Parasitic helminth p4 proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn Robert Frank, Ft. Collins, CO
Robert B. Grieve, Ft. Collins, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/459,019
DATE FILED: Jun. 2, 1995
ART-UNIT: 182
PRIM-EXMR: Hazel F. Sidberry
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,686,080 [IMAGE AVAILABLE] L8: 8 of 13

ABSTRACT:
The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of D. immitis nucleic acid sequence p4 and/or to at least a portion of D. immitis nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins, antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

US PAT NO: 5,639,876 [IMAGE AVAILABLE] L8: 9 of 13
DATE ISSUED: Jun. 17, 1997
TITLE: Nucleic acid molecules encoding novel parasitic helminth proteins
INVENTOR: Cynthia Ann Tripp, Ft. Collins, CO
Glenn Robert Frank, Ft. Collins, CO
Robert B. Grieve, Ft. Collins, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
Colorado State University Research Foundation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/109,391
DATE FILED: Aug. 19, 1993
ART-UNIT: 182
PRIM-EXMR: Hazel F. Sidberry
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,639,876 [IMAGE AVAILABLE] L8: 9 of 13

ABSTRACT:
The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of D. immitis nucleic acid sequence p4 and/or to at least a portion of D. immitis nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins, antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

US PAT NO: 5,618,532 [IMAGE AVAILABLE] L8: 10 of 13
DATE ISSUED: Apr. 8, 1997
TITLE: Dirofilaria immitis Gp29 proteins and uses thereof
INVENTOR: Cynthia A. Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/462,177
DATE FILED: Jun. 5, 1995
ART-UNIT: 184
PRIM-EXMR: Keith D. Hendricks
LEGAL-REP: Sheridan Ross P.C.

US PAT NO: 5,618,532 [IMAGE AVAILABLE] L8: 10 of 13

ABSTRACT:
The present invention relates to D. immitis Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of D. immitis glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,569,603 [IMAGE AVAILABLE] L8: 11 of 13
DATE ISSUED: Oct. 29, 1996
TITLE: Dirofilaria immitis GP29 proteins, nucleic acid molecules and uses thereof
INVENTOR: Cynthia A. Tripp, Ft. Collins, CO
Murray E. Selkirk, London, England
Robert B. Grieve, Windsor, CO
ASSIGNEE: Heska Corporation, Ft. Collins, CO (U.S. corp.)
APPL-NO: 08/208,885
DATE FILED: Mar. 8, 1994
ART-UNIT: 184
PRIM-EXMR: Keith D. Hendricks
LEGAL-REP: Sheridan Ross & McIntosh

US PAT NO: 5,569,603 [IMAGE AVAILABLE] L8: 11 of 13

ABSTRACT:
The present invention relates to D. immitis Gp29 proteins, nucleic acid molecules having sequences that encode such proteins, antibodies raised against such proteins and inhibitors of D. immitis glutathione peroxidase. The present invention also includes methods to obtain such nucleic acid molecules, proteins, antibodies and inhibitors. The present invention also includes therapeutic compositions comprising such nucleic acid molecules, proteins, antibodies and inhibitors as well as their use to protect animals from disease caused by parasitic helminths, such as heartworm.

US PAT NO: 5,492,695 [IMAGE AVAILABLE] L8: 12 of 13
DATE ISSUED: Feb. 20, 1996
TITLE: Vaccinating cats against Dirofilaria immitis with an L4 homogenate
INVENTOR: Robert B. Grieve, La Porte, CO
Glenn Frank, Fort Collins, CO
ASSIGNEE: Colorado State University Research Foundation, Fort Collins, CO (U.S. corp.)
APPL-NO: 07/882,790
DATE FILED: May 14, 1992
ART-UNIT: 183
PRIM-EXMR: Mary E. Mosher
ASST-EXMR: Anthony C. Caputa
LEGAL-REP: Sheridan Ross & McIntosh

US PAT NO: 5,492,695 [IMAGE AVAILABLE] L8: 12 of 13

ABSTRACT:
It has been found that hosts which are susceptible to nematode parasite infections can readily be protected from such infections when the parasites are not adapted for a parasite/host relationship to this host. In particular, feline hosts were immunized against heartworm using a

variety of antigens derived from Dirofilaria immitis and related nematodes. Because cats are hosts susceptible to this nonadapted parasite, such antigens are successfully protective.

US PAT NO: 4,761,281 [IMAGE AVAILABLE] L8: 13 of 13
DATE ISSUED: Aug. 2, 1988
TITLE: Vaccine from Dirofilaria extracts
INVENTOR: George H. Scherr, Park Forest, IL
ASSIGNEE: ImmunoMed Corporation, Tampa, FL (U.S. corp.)
APPL-NO: 06/854,853
DATE FILED: Apr. 22, 1986
ART-UNIT: 153
PRIM-EXMR: Howard E. Schain
LEGAL-REP: Pettis & McDonald

US PAT NO: 4,761,281 [IMAGE AVAILABLE] L8: 13 of 13

ABSTRACT:
A vaccine for protecting animals against infection by Dirofilaria which comprises fractions of extracts of the adult organisms of Dirofilaria.

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FILE 'HOME' ENTERED AT 12:31:32 ON 01 MAR 1999

=> index bioscience patents

FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
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FILE 'PAPERCHEM' ACCESS NOT AUTHORIZED
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                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.15       0.15

INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, AIDSLINE, ANABSTR, AQUASCI,
      BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, CABA,
CANCERLIT,
      CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
DRUGB,
      DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 12:31:41 ON 01 MAR 1999

67 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view
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=> s (dirofilar? or immit?) and (astacin? or protease? or peptidase? or
metalloendo? or (proteoly?(3a)enzym?))

         10   FILE AGRICOLA
   8 FILES SEARCHED...
         33   FILE BIOSIS
          6   FILE BIOTECHABS
          6   FILE BIOTECHDS
         22   FILE CABA
  12 FILES SEARCHED...
  13 FILES SEARCHED...
         31   FILE CAPLUS
          1   FILE CEABA
          1   FILE CIN
          1   FILE CONFSCI
         68   FILE DGENE
  23 FILES SEARCHED...
          1   FILE EMBAL
         17   FILE EMBASE
          1   FILE FSTA
         14   FILE GENBANK
  33 FILES SEARCHED...
          6   FILE IFIPAT
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          5   FILE LIFESCI
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          4   FILE TOXLIT
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          4   FILE WPIDS
          4   FILE WPINDEX
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          2   FILE DPCI
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          1   FILE INPADOC
  58 FILES SEARCHED...
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          2   FILE PATOSWO

  31 FILES HAVE ONE OR MORE ANSWERS,    67 FILES SEARCHED IN STNINDEX

L1   QUE (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR PEPTIDASE? OR
MET
        ALLOENDO? OR (PROTEOLY?(3A) ENZYM?))

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F1          73   USPATFULL
F2          68   DGENE
F3          33   BIOSIS
F4          31   CAPLUS
F5          28   SCISEARCH
F6          27   MEDLINE
F7          22   CABA
F8          17   EMBASE
F9          14   GENBANK
F10         10   AGRICOLA
F11          6   BIOTECHABS
F12          6   BIOTECHDS
F13          6   IFIPAT
F14          5   LIFESCI
F15          5   PROMT
F16          4   TOXLIT
F17          4   WPIDS
F18          4   WPINDEX
F19          4   EUROPATFULL
F20          2   JICST-EPLUS
F21          2   DPCI
F22          2   PATOSEP
F23          2   PATOSWO
F24          1   CEABA
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F27          1   EMBAL
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F31          1   PATDPA

=> file f1-f19

COST IN U.S. DOLLARS                          SINCE FILE      TOTAL
                                                 ENTRY     SESSION
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   6 FILES SEARCHED...
  12 FILES SEARCHED...
L2          357 L1

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ENTER L# LIST OR (END):16, 13-4, 17, 18, 19-131

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CANCERLIT,
     CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
DRUGB,
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PEPTID
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L1               QUE (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTID
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EMBASE,
     GENBANK, AGRICOLA, BIOTECHDS, IFIPAT, LIFESCI, PROMT, TOXLIT, WPIDS,
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L2          357 S L1

=> dup rem

ENTER L# LIST OR (END):16, 13-14, 17, 18-131

L6 IS NOT VALID HERE
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=> s (dirofilar? or immit?) and (astacin? or protease? or peptidase? or
metalloendo? or (proteoly?(3a)enzym?))

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L3          357 (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTIDASE?
                OR METALLOENDO? OR (PROTEOLY?(3A) ENZYM?))

=> dup rem

ENTER L# LIST OR (END):13

DUPLICATE IS NOT AVAILABLE IN 'DGENE, GENBANK'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L3
L4          240 DUP REM L3 (117 DUPLICATES REMOVED)

=> d ti all


L4   ANSWER 1 OF 240  USPATFULL
TI     Methods for screening for antimycotics
AN     1999:21907  USPATFULL
TI     Methods for screening for antimycotics
IN     Moehle, Charles M., Hayward, CA, United States
PA     Ribogene, Inc., Hayward, CA, United States (U.S. corporation)
PI     US 5871923  19990216
AI     US 97-802626  19970219 (8)
RLI    Division of Ser. No. US 94-328258, filed on 24 Oct 1994, now patented,
       Pat. No. US 5641627 which is a continuation-in-part of Ser. No. US
       93-142880, filed on 25 Oct 1993, now abandoned
DT     Utility
REP    US 4792520        Dec 1988  435/006.000   Stambrook et al.
       WO 9423041        Oct 1994
REN    Leppert et al., Genetics, vol. 125, 1990, pp. 13-20.
       Balei et al., J. Biol. Chem., vol. 262, 1987, pp. 16871-16879.
       Alani et al., "A Method for Gene Disruption That Allows Repeated Use of
       URA3 Selection in the Construction of Multiply Disrupted Yeast
Strains,"
       Genetics 116:541-545 (1987).
       Balzi and Goffeau, "Multiple or pleiotropic drug resistance in yeast,"
       Biochem. Biophys. Acta 1073:241-252 (1991).
       Belcourt and Farabough, "Ribosomal Frameshifting in a Yeast
       Retrotransposon TY: tRNAs Induce Slippage on a 7 Nucleotide Minimal
       Site," Cell 62:339-352 (1990).
       Boeke et al., A positive selection for mutants lacking
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EXNAM Primary Examiner: Ketter, James
LREP Pennie & Edmonds LLP
CLMN Number of Claims: 72
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 8 Drawing Page(s)
AB Screening methods for identification of antimy-cotic agents active in mycotic cell translation, the agents identified thereby, and uses of these agents.

PARN RELATED APPLICATION

This is a division, of application Ser. No. 08/328,258, filed Oct. 24, 1994, now U.S. Pat. No. 5,641,627, which is a continuation-in-part of Moehle, U.S. patent application Ser. No. 08/142,880, filed Oct. 25, 1993, now abandoned, entitled "Methods for Screening for Antimycotics," the whole of which is hereby incorporated by reference.

This invention relates to methods for screening for agents useful for treatment of mycoses, fungal infections or infestations, the novel agents identified using such screening methods, and their use as antifungal or antimycotic agents.

SUMM BACKGROUND OF THE INVENTION

Fungal and other mycotic pathogens (some of which are described in Human Mycoses, E. S. Beneke, Upjohn Co.:Kalamazoo, Mich., 1979; Opportunistic Mycoses of Man and Other Animals, J. M. B. Smith, CAB International:Wallingford, UK, 1989; and Scrip's Antifungal Report, by PJB Publications Ltd, 1992) are responsible for a variety of diseases in humans, animals, and plants ranging from mycoses involving skin, hair, or mucous membranes, such as, but not limited to, Aspergillosis, Black piedra, Candidiasis, Chromomycosis, Cryptococcosis, Onychomycosis, or Otitis externa (otomycosis), Phaeohyphomycosis, Phycomycosis, Pityriasis

versicolor, ringworm, Tinea barbae, Tinea capitis, Tinea corporis, Tinea cruris, Tinea favosa, Tinea imbricata, Tinea manuum, Tinea nigra (palmaris), Tinea pedis, Tinea unguium, Torulopsosis, Trichomycosis axillaris, White piedra, and their synonyms, to severe systemic or opportunistic infections, such as, but not limited to, Actinomycosis, Aspergillosis, Candidiasis, Chromomycosis, Coccidioidomycosis, Cryptococcosis, Entomophthoramycosis, Geotrichosis, Histoplasmosis, Mucormycosis, Mycetoma, Nocardiosis, North American Blastomycosis, Paracoccidioidomycosis, Phaeohyphomycosis, Phycomycosis, pneumocystic pneumonia, Pythiosis, Sporotrichosis, and Torulopsosis, and their synonyms, some of which may be fatal. Known fungal and mycotic pathogens include, but are not limited to, Absidia spp., Actinomadura madurae, Actinomyces spp., Allescheria boydii, Alternaria spp., Anthopsis deltoidea, Apophysomyces eleqans, Arnium leoporinum, Aspergillus spp., Aureobasidium pullulans, Basidiobolus ranarum, Bipolaris spp., Blastomyces dermatitidis, Candida spp., Cephalosporium spp., Chaetoconidium spp., Chaetomium spp., Cladosporium spp., Coccidioides **immitis**, Conidiobolus spp., Corynebacterium tenuis, Cryptococcus spp., Cunninghamella bertholletiae, Curvularia spp., Dactylaria spp., Epidermophyton spp., Epidermophyton floccosum, Exserophilum spp., Exophiala spp., Fonsecaea spp., Fusarium spp., Geotrichum spp., Helminthosporium spp., Histoplasma spp., Lecythophora spp., Madurella spp., Malassezia furfur, Microsporum spp., Mucor spp., Mycocentrospora acerina, Nocardia spp., Paracoccidioides brasiliensis, Penicillium spp., Phaeosclera dematioides, Phaeoannellomyces spp., Phialemonium obovatum, Phialophora spp., Phoma spp., Piedraia hortai, Pneumocystis carinii, Pythium insidiosum, Rhinocladiella aquaspersa, Rhizomucor pusillus, Rhizopus spp., Saksenaea vasiformis, Sarcinomyces phaeomuriformis, Sporothrix schenckii, Syncephalastrum racemosum, Taeniolella boppii, Torulopsosis spp., Trichophyton spp., Trichosporon spp., Ulocladium chartarum, Wangiella dermatitidis, Xylohypha spp., and their synonyms. Other fungi that "obviously have pathogenic potential" (Smith, op. ct.) include, but are not limited to, Thermomucor indicae-seudaticae, Radiomyces spp., and other species of known pathogenic genera. There are also reports implicating Saccharomyces as a human pathogen (e.q., Fungemia with Saccharomycetacea, H. Nielson, J. Stenderup, & B. Bruun, Scand. J. Infect. Dis. 22:581-584, 1990). In recent years there has been a marked increase in the number of serious mycoses as a result of the growing number of immunosuppressed and immunocompromised individuals, such as transplant recipients, patients receiving chemotherapy, and HIV-infected individuals.

Fungal infection is also a significant problem in veterinary medicine including, but not limited to, candidiasis, cryptococcosis, aspergillosis, mucormycosis, pythiosis, entomophthoramycosis, oomycosis, chromomycosis, torulopsosis, infections with Penicillium spp., Trichosporon spp., Paecilomyces spp., Microsporum spp., and a variety of miscellaneous/rarer opportunistic mycoses (Opportunistic Mycoses of Man and Other Animals, J. M. B. Smith, CAB International, Wallingford, UK, 1989). Fungal infections are a common cause of nasal disease in dogs and cats (Fungal Diseases of the Nasal Cavity of the Dog and Cat, Wolf, A. M., 1992, Vet. Clin. of North Amer.:Small Anim. Prac. 22, 1119-1132). A variety of fungi, including, but not limited to, Aspergillus spp., Candida spp., Paecilomyces spp., Penicillium spp., Alternaria spp., Geotrichum spp., and Cladosporium spp., have been isolated from animal eyes and may cause fungal keratitis in several species including, but not limited to, horses, dogs, and cats (Microbiology of the Canine and

Feline Eye, P.A. Gerding and I. Kakoma, 1990, Vet. Clin. of North Amer.:Small Anim. Prac. 20, 615-625). Skin infections by fungi, including, but not limited to, Microsporum canis, Trichophyton mentagrophytes, Trichophyton verucosum, Microsporum eguinum, Microsporum gallinae, and Microsporum nanum, occur in many different animals, ,both wild and domestic with some infections being specific to a given host species (Fungal Skin Infections Associated with Animal Contact, W. H. Radentz, 1991, AFP 43, 1253-1256).

Some of the fungi that infect animals can be transmitted from animals to humans. Fungal zoonotic diseases are most commonly associated with animals used as pets, with a higher frequency found among veterinary personnel owing to higher levels of contact with animals (ibid., M. R. Lappin, Vet. Clin. of North Amer. :Small Anim. Prac. 23, 57-78.). Topical and systemic antifungal agents are used to treat both humans and animals.

Fungal infections or infestations are also a very serious problem in agriculture with fungicides being employed to protect vegetable, fruit, and nut crops (F. L. McEwen and G. R. Stephenson, 1979, The Use and Significance of Pesticides in the Environment. Wiley, N.Y.). Fungicides are applied to soil, seeds, propagating material, growing plants, and produce to combat pathogens. Seed and soilborne pathogens include but are not limited to Aphanomyces spp., Armillaria spp., Cephalosporium spp., Cylindrocladium spp., Fusarium spp., Helminthosporium spp., Macrophomina spp., Magnaporthe spp., Ophiobolus spp., Phymatotrichum spp., Phytophthora spp., Pythium spp., Rhizoctonia spp., Scerotium spp., Sclerotinia spp., Thielaviopsis spp., Ustilago spp., Verticillium spp., and Whetxelinia spp., (R. Rodriguez-Kabana, P. A. Backman, and E. A. Curl, Control of Seed and Soil-Borne Plant Diseases. In Antifungal Compounds, M. Siegel and H. Sisler, eds., Marcel Dekker Inc., N.Y., 1977). Post-harvest diseases of fresh fruits and vegetable are caused by fungi including, but not limited to, Alternaria spp., Botrytis spp., Centrospora spp., Ceratocystis spp., Colletotrichum spp, Cryptoporiopsis spp., Diplodia spp., Fusarium spp., Helminthosporium spp. Monilinia spp., Nectria spp., Oospora spp., Penicillium spp., Phlyctaena spp., Phoma spp., Phomopsis spp., Rhizopus spp., Sclerotinia spp., and Verticillium spp.

It has been estimated that fungicides are employed in the growing of one-half of the world's crops (G.

Ordish and J. F. Mitchell. 1967, World Fungicide Usage. In Fungicides, an Advanced Treatise, Vol. 1, pp.39-62. D.C. Torgeson, ed. Academic Press, N.Y.) either to control disease during crop development, to improve the storage of produce, or to increase production of a particular crop. Approximately 20% of U.S. non-pasture crop land is treated with fungicides (E. W. Palm, Estimated Crop Losses Without the Use of Fungicides and Nematicides and Without Nonchemical Controls. CRC Handbook of Pest Management in Agriculture, Vol. 1, p.139f.). In economic terms, the cessation of fungicide use would result in losses to field crops, vegetable crops, and fruit and nut crops estimated to total over two billion dollars (ibid.). Some crops would be particularly hard hit, e.cr, peanut losses would be expected to be >70% of the total crop, pecan losses >65% of the total crop, tomato losses >60% of the total crop, potato losses >40% of the total crop, and fruits such as apples,

cherries, peaches, and pears each >50% of their total crop (ibid.).

Fungal attack of wood products is also of major economic importance with an estimated one billion dollars in damage annually (not including damage to living trees) in the U.S., even with the extensive use of existing preservatives (M. P. Levi, Fungicides in Wood Preservation, In Antifungal Compounds, M. Siegel and H. Sisler, eds., Marcel Dekker Inc., N.Y., 1977). Hundreds of fungal species have been isolated from wood products. Surface molds result from infestation by genera including, but not limited to, Trichoderma spp., Gliocladium spp., Penicillium spp., Aspergillus spp., and Alternaria spp. Sap stain fungi include, but are not limited to, Ceratocystis spp., Diplodia spp., Graphium spp., Aureobasidium spp., and Cytospora spp. Decay fungi responsible for a large proportion of the economic losses include, but are not limited to, Coniophora spp., Lentinus spp., Lenzites spp., Polyporus spp., Poria spp., and Merulius spp. Soft-rot fungi include, but are not limited to, Ascomycetes spp., Chaetomium spp., and Fungi Imperfecti.

Additional products that are susceptible to fungal infestation include textiles, plastics, paper, rubber, adhesives, emulsion polymers, leather, cosmetics, household disinfectants, deodorants, and paint. (C.C. Yeager, Fungicides in Industry, in Antifungal Compounds, M. Siegel and H. Sisler, eds., Marcel Dekker Inc., N.Y., 1977). More work has been done on paint than on any other substrate. Fungi that attack painted

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INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, AIDSLINE, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, CABA, CANCERLIT, CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 12:31:41 ON 01 MAR 1999

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TIEN   VACCINE CONTAINING A SERINE PROTEASE.

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TI     Pharmaceutical dipeptide compositions and methods of use thereof:
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L4 ANSWER 12 OF 240 USPATFULL DUPLICATE 2
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L4 ANSWER 13 OF 240 USPATFULL DUPLICATE 3
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TI Compounds and methods for making and using same

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TI Sequence-directed DNA-binding molecules compositions and methods

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TI Nematode vaccine

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L4 ANSWER 38 OF 240 USPATFULL
TI Screening assay for the detection of DNA-binding molecules

L4 ANSWER 39 OF 240 USPATFULL
TI Method of constructing sequence-specific DNA-binding molecules

L4 ANSWER 40 OF 240 USPATFULL
TI .alpha.-(1,3-dicarbonylenol ether) methyl ketones as cysteine **protease** inhibitors

L4 ANSWER 41 OF 240 TOXLIT
TI Filariid nematode cysteine **protease** proteins, nucleic acid molecules and their uses to treat infection.

L4 ANSWER 42 OF 240 EUROPATFULL COPYRIGHT 1999 WILA
TIEN Production and use of anthelmintic agents and protective immunogens.

L4 ANSWER 43 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Purification and characterisation of a secreted aminopeptidase from adult Ascaris suum

L4 ANSWER 44 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 5
TI Antibody to the **Dirofilaria immitis** aspartyl **protease** inhibitor homolog is a diagnostic marker for feline heartworm infections

L4 ANSWER 45 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Effect of **protease** class-specific inhibitors on in vitro development of the third- to fourth-stage larvae of Ascaris suum

L4 ANSWER 46 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Cytosolic neutral proteinases of Paracoccidioides brasiliensis

L4 ANSWER 47 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska granted six patents for novel vaccine delivery system, flea allergens and heartworm antigens

L4 ANSWER 48 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska Granted Six Patents for Novel Vaccine Delivery System, Flea Allergens and Heartworm Antigens

L4 ANSWER 49 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska Granted Six Patents for Novel Vaccine Delivery Systems, Flea Control
and Heartworm Antigens

L4 ANSWER 50 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska granted six patents for vaccine delivery systems, flea Control and heartworm antigens
Received patents for vaccines for flea and heartworm control

L4 ANSWER 51 OF 240 USPATFULL DUPLICATE 6
TI Filariid cysteine **protease** genes

L4 ANSWER 52 OF 240 USPATFULL DUPLICATE 7
TI Inhibitors of metazoan parasite **proteases**

L4 ANSWER 53 OF 240 USPATFULL
TI Synergistic antifungal protein and compositions containing same

L4 ANSWER 54 OF 240 USPATFULL
TI Telomerase activity assays for diagnosing pathogenic infections

L4 ANSWER 55 OF 240 USPATFULL
TI Methods for making nucleoside analogs

L4 ANSWER 56 OF 240 USPATFULL
TI Method of ordering sequence binding preferences of a DNA-binding molecule

L4 ANSWER 57 OF 240 USPATFULL
TI Method of stabilizing enzyme conjugates

L4 ANSWER 58 OF 240 USPATFULL
TI Parasitic helminth p4 proteins

L4 ANSWER 59 OF 240 USPATFULL
TI DNA encoding natural killer lytic associated protein

L4 ANSWER 60 OF 240 USPATFULL
TI Nucleotide analogues

L4 ANSWER 61 OF 240 USPATFULL
TI Nucleotide analogs

L4 ANSWER 62 OF 240 USPATFULL
TI Therapy and diagnosis of conditions related to telomere length and/or telomerase activity

L4 ANSWER 63 OF 240 USPATFULL
TI Production and purification of a protein fused to a binding protein

L4 ANSWER 64 OF 240 USPATFULL
TI Methods for screening for antimycotics

L4 ANSWER 65 OF 240 USPATFULL
TI Nucleic acid molecules encoding novel parasitic helminth proteins

L4 ANSWER 66 OF 240 USPATFULL
TI **Dirofilaria immitis** Gp29 proteins and uses thereof

L4 ANSWER 67 OF 240 EUROPATFULL COPYRIGHT 1999 WILA
TIEN PREPARATION AND USE OF TRANSFER FACTOR.

L4 ANSWER 68 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Secretion of an aminopeptidase during transition of third- to fourth-stage

larvae of Ascaris suum

L4 ANSWER 69 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 8
TI Differentially expressed, abundant trans-spliced cDNAs from larval Brugia malayi.

L4 ANSWER 70 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 9
TI Effects of inhibitors of serine **protease**, phenoloxidase and dopa decarboxylase on the melanization of **Dirofilaria immitis** microfilariae with Armigeres subalbatus haemolymph in vitro.

L4 ANSWER 71 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Trichuris suis: Thiol **protease** activity from adult worms

L4 ANSWER 72 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI **Proteolytic enzymes** of infective larvae and adults of Trichostrongylus colubriformis and Haemonchus contortus

L4 ANSWER 73 OF 240 PROMT COPYRIGHT 1999 IAC

TI Heska Granted Four Patents For Parasite Antigens

L4 ANSWER 74 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 10
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**

L4 ANSWER 75 OF 240 USPATFULL
TI Sequence-directed DNA-binding molecules compositions and methods

L4 ANSWER 76 OF 240 USPATFULL
TI **Dirofilaria immitis** GP29 proteins, nucleic acid molecules and uses thereof

L4 ANSWER 77 OF 240 USPATFULL
TI Synergistic antifungal protein and compositions containing same

L4 ANSWER 78 OF 240 USPATFULL
TI Haemonchus contortus vaccine

L4 ANSWER 79 OF 240 USPATFULL
TI Synergistic antifungal protein and compositions containing same

L4 ANSWER 80 OF 240 USPATFULL
TI Vaccinating cats against **Dirofilaria immitis** with an L4 homogenate

L4 ANSWER 81 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI Heteroaromatic inhibitors of metazoan parasite **proteases** for treatment of schistosomiasis, malaria, and other infectious diseases

L4 ANSWER 82 OF 240 TOXLIT
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**.

L4 ANSWER 83 OF 240 EUROPATFULL COPYRIGHT 1999 WILA
TIEN VACCINES AGAINST METAZOAN PARASITES.

L4 ANSWER 84 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI Cloning of a cysteine **protease** required for the molting of Onchocerca volvulus third stage larvae

L4 ANSWER 85 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI EXPRESSION OF PZ-**PEPTIDASES** BY CULTURES OF SEVERAL PATHOGENIC FUNGI - PURIFICATION AND CHARACTERIZATION OF A COLLAGENASE FROM TRICHOPHYTON SCHOENLEINII

L4 ANSWER 86 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 11
TI Carboxy-terminal sequence divergence and processing of the polyprotein antigen from **Dirofilaria immitis**.

L4 ANSWER 87 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 12
TI Cloning of cDNA for parasitic **proteases** and their uses for preparing anti-parasite agents

L4 ANSWER 88 OF 240 USPATFULL
TI Transfer factor and methods of use

L4 ANSWER 89 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Parasite **protease** genes and proteins; nematode recombinant **astacin metalloendopeptidase** and cystein **protease** production, for application in parasite infection therapy

L4 ANSWER 90 OF 240 MEDLINE
TI Purification and characterization of an acid proteinase from **Dirofilaria immitis** worms.

L4 ANSWER 91 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI Characterization of a subtilisin-like proprotein convertase from **Dirofilaria immitis**: A candidate **protease** for processing the "ladder" protein of filarial nematodes.

L4 ANSWER 92 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI CYSTEINE **PROTEASE** OF THE NEMATODE NIPPOSTRONGYLUS-BRASILIENSIS PREFERENTIALLY EVOKES AN IGE/IGG1 ANTIBODY-RESPONSE IN RATS

L4 ANSWER 93 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI **DIROFILARIA-IMMITIS** - IMMUNOHISTOCHEMICAL LOCALIZATION OF ACID PROTEINASE IN THE ADULT WORM

L4 ANSWER 94 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 13
TI Inhibitors of metazoan parasite **proteases**

L4 ANSWER 95 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI IMMUNODIAGNOSTIC POTENTIAL OF A FILARIAL **PROTEASE**

L4 ANSWER 96 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 14
TI Cloning of a dibasic processing endoprotease from **Dirofilaria immitis**: A candidate **protease** for processing the polyprotein allergen of nematodes.

L4 ANSWER 97 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 15
TI **Protease** vaccine against heartworm

L4 ANSWER 98 OF 240 TOXLIT
TI **Protease** vaccine against heartworm.

L4 ANSWER 99 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI Synthetic peptides of human lysosomal cathepsin G with potent antipseudomonal activity.

L4 ANSWER 100 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI DETECTION OF **PROTEOLYTIC-ENZYMES** RELEASED BY THE DIMORPHIC FUNGUS PARACOCCIDIOIDES-BRASILIENSIS

L4 ANSWER 101 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI PURIFICATION AND PARTIAL CHARACTERIZATION OF AN ACID PROTEINASE FROM **DIROFILARIA-IMMITIS**

L4 ANSWER 102 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 16

TI **Dirofilaria immitis**: Effect of fluoromethyl ketone cysteine **protease** inhibitors on the third- to fourth-stage molt.

L4 ANSWER 103 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI **Proteases** produced by **Dirofilaria immitis** third- and fourth-stage larvae

L4 ANSWER 104 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI IDENTIFICATION OF AN ESTROGEN-BINDING PROTEIN IN PSEUDOMONAS-AERUGINOSA

L4 ANSWER 105 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 17
TI **DIROFILARIA-IMMITIS PROTEASES** PRODUCED BY THIRD AND FOURTH-STAGE LARVAE.

L4 ANSWER 106 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI VIRULENCE PROPERTIES AND NONIMMUNE PATHOGENETIC MECHANISMS OF FUNGI

L4 ANSWER 107 OF 240 USPATFULL
TI Immunization implant and method

L4 ANSWER 108 OF 240 CAPLUS COPYRIGHT 1999 ACS
TI Anticoagulant and anthelmintic proteins and methods for the production and use of same

L4 ANSWER 109 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 18
TI ONCHOCERCA-VOLVULUS ONCHOCERCA-GUTTUROSA BRUGIA-MALAYI AND **DIROFILARIA-IMMITIS** A COMPARATIVE STUDY OF THE IMMUNOCHEMICAL PROPERTIES OF CUTICULAR PROTEINS FROM FILARIAL PARASITES.

L4 ANSWER 110 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI CHARACTERIZATION OF A CYSTEINE **PROTEASE** INHIBITOR FROM **DIROFILARIA-IMMITIS**.

L4 ANSWER 111 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 19
TI IMMUNOCHEMICAL STUDIES OF ASPERGILLUS-FUMIGATUS MYCELIAL ANTIGENS BY POLYACRYLAMIDE GEL ELECTROPHORESIS AND WESTERN BLOTTING TECHNIQUES.

L4 ANSWER 112 OF 240 USPATFULL
TI Oxygenated alkyl substituted bicyclo alkanes

L4 ANSWER 113 OF 240 USPATFULL
TI Process for obtaining transfer factor from colostrum, transfer factor so obtained and use thereof

L4 ANSWER 114 OF 240 USPATFULL
TI Cytoplasmic antigens of candida albicans and methods of using the same

L4 ANSWER 115 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 20
TI IMMUNOAFFINITY ISOLATION AND PARTIAL CHARACTERIZATION OF THE COCCIDIOIDES-**IMMITIS** ANTIGEN DETECTED BY THE TUBE PRECIPITIN AND IMMUNODIFFUSION-TUBE PRECIPITIN TESTS.

L4 ANSWER 116 OF 240 MEDLINE
TI Characterization of a proteinase inhibitor isolated from the fungal pathogen Coccidioides **immitis**.

L4 ANSWER 117 OF 240 MEDLINE
TI Antigenic structure of Coccidioides **immitis**.

L4 ANSWER 118 OF 240 USPATFULL
TI Vaccine from **Dirofilaria** extracts

L4 ANSWER 119 OF 240 CABA COPYRIGHT 1999 CABI
TI The biochemistry of **Dirofilaria immitis**.

L4 ANSWER 120 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 21
TI POSSIBLE ROLE OF A PROTEINASE IN ENDOSPORULATION OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 121 OF 240 USPATFULL
TI Oxygenated alkyl substituted bicyclo alkanes

L4 ANSWER 122 OF 240 USPATFULL
TI Monoclonal antibody to Candida albicans cytoplasmic antigens and methods of preparing same

L4 ANSWER 123 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 22
TI IDENTIFICATION AND PARTIAL CHARACTERIZATION OF A PARASITE ANTIGEN IN SERA FROM HUMANS INFECTED WITH WUCHERERIA-BANCROFTI.

L4 ANSWER 124 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 23
TI PROTEINASE PRODUCTION BY THE PARASITIC CYCLE OF THE PATHOGENIC FUNGUS COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 125 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 24
TI ISOLATION AND CHARACTERIZATION OF AN EXTRACELLULAR PROTEINASE OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 126 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 25
TI Plasmodium berghei: a study of a globinolytic enzyme in erythrocytic parasite

L4 ANSWER 127 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI ISOLATION AND CHARACTERIZATION OF A 36KD **PROTEASE** FROM COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 128 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 26
TI PROTEOLYTIC CLEAVAGE OF IGG AND OTHER PROTEIN SUBSTRATES BY **DIROFILARIA-IMMITIS** MICROFILARIAL ENZYMES.

L4 ANSWER 129 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Biochemical and immunologic characterization of a major surface antigen of **Dirofilaria immitis** infective larvae; application to vaccine production

L4 ANSWER 130 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 27
TI **PROTEOLYTIC ENZYMES** IN EXTRACTS OF **DIROFILARIA -IMMITIS** MICROFILARIAE.

L4 ANSWER 131 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 28
TI DEMONSTRATION OF CARBOXYL AND THIOL **PROTEASE** ACTIVITIES IN ADULT SCHISTOSOMA-MANSONI **DIROFILARIA-IMMITIS** ANGIOSTRONGYLUS-CANTONENSIS AND ASCARIS-SUUM.

L4 ANSWER 132 OF 240 MEDLINE DUPLICATE 29
TI Lectin-binding characteristics of Brugia pahangi microfilariae.

L4 ANSWER 133 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 30
TI STUDIES ON AN ACID **PROTEASE** FROM **DIROFILARIA-IMMITIS**.

L4 ANSWER 134 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 31
TI ISOLATION PARTIAL PURIFICATION AND SOME PROPERTIES OF 2 ACID **PROTEASES** FROM ADULT **DIROFILARIA-IMMITIS**.

L4 ANSWER 135 OF 240 AGRICOLA

TI Isolation, partial purification and some properties of two acid **proteases** from adult **Dirofilaria immitis**.

L4 ANSWER 136 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 32
TI THE ACTIVITY OF ACID **PROTEASES** HYDROLYZING HEMO GLOBIN IN PARASITIC HELMINTHS WITH SPECIAL REFERENCE TO INTERSPECIFIC AND INTRASPECIFIC DISTRIBUTION.

L4 ANSWER 137 OF 240 AGRICOLA
TI The activity of acid **proteases** hydrolysing haemoglobin in parasitic helminths with special reference to interspecific and intraspecific distribution.

L4 ANSWER 138 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI ALTERATIONS OF PROTHROMBIN TIME AND ACTIVATED PARTIAL THROMBOPLASTIN TIME IN DOGS WITH HEPATIC DISEASE.

L4 ANSWER 139 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 33
TI EFFECTS OF DIALYZABLE LEUKOCYTE EXTRACTS WITH TRANSFER FACTOR ACTIVITY ON LEUKOCYTE MIGRATION IN-VITRO ANTIGEN SPECIFIC LYMPHOCYTE RESPONSIVENESS CAN BE INITIATED BY 2 STRUCTURALLY DISTINCT POLY RIBO NUCLEO PEPTIDES.

L4 ANSWER 140 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 34
TI **DIROFILARIA-IMMITIS** PHYSICOCHEMICAL PROPERTIES OF IMMUNO GLOBULIN G INDUCING ANTIGEN WITH SPECIAL REFERENCE TO THE COMPARISON WITH HIGHLY PURIFIED ALLERGEN.

L4 ANSWER 141 OF 240 USPATFULL
TI Assay employing a labeled Fab-fragment ligand complex

L4 ANSWER 142 OF 240 USPATFULL
TI Antienzyme homogeneous competitive binding assay

L4 ANSWER 143 OF 240 USPATFULL
TI Label modified immunoassays

L4 ANSWER 144 OF 240 USPATFULL
TI Process for the preparation of glucoproteins as well as the use thereof

L4 ANSWER 145 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 146 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 35
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 147 OF 240 AGRICOLA
TI **Peptidase** activity of Coccidioides **immitis** Fungus.

L4 ANSWER 148 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**

L4 ANSWER 149 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
TI HISTOCHEMICAL DIFFERENTIATION OF MICROFILARIAE OF DIPETALONEMA **DIROFILARIA** ONCHOCERCA AND SETARIA-SPP OF MAN AND DOMESTIC ANIMALS IN THE ZARIA AREA NIGERIA.

L4 ANSWER 150 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 36
TI SOME PROPERTIES OF HEMO GLOBIN **PROTEASE** FROM ANCYLOSTOMA-CANINUM.

L4 ANSWER 151 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 37
TI IMMUNOCHEMICAL PROPERTIES OF EXTRACELLULAR HYDROLASES **PROTEASE** AND ALKALINE PHOSPHATASE OF COCCIDIOIDES-**IMMITIS**.

L4 ANSWER 152 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)

TI IMMUNOCHEMICAL PROPERTIES OF EXTRACELLULAR HYDROLASES (**PROTEASE** AND ALKALINE-PHOSPHATASE) OF C-**IMMITIS**

L4 ANSWER 153 OF 240 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
TI Immunochemical properties of extracellular hydrolases (**protease** and alkaline phosphatase) of C. **immitis**.

L4 ANSWER 154 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 38
TI A STUDY OF SOME CONDITIONS OF COCCIDIOIDES-**IMMITIS** **PROTEASE** FORMATION.

L4 ANSWER 155 OF 240 MEDLINE DUPLICATE 39
TI [Study of the conditions for **protease** formation by Coccidioides **immitis**].
Izuchenie nekotorykh uslovii obrazovaniia proteazy Coccidioides **immitis**.

L4 ANSWER 156 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
TI STUDY OF SOME CONDITIONS OF C-**IMMITIS PROTEASE** FORMATION

L4 ANSWER 157 OF 240 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.
TI Conditions of C. **immitis protease** formation.

L4 ANSWER 158 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 40
TI DELAYED HYPER SENSITIVITY TO FUNGAL ANTIGENS IN MICE PART 3 CHARACTERIZATION OF THE ACTIVE COMPONENT IN IMMUNOGENIC RNA EXTRACTS.

L4 ANSWER 159 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 160 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 161 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 162 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 163 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 164 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 165 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 166 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 167 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis**, putative pepsin inhibitor family protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 168 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 169 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 170 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 171 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 172 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 173 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 174 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 175 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 176 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 177 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD

TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 178 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 179 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 180 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 181 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 182 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 183 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 184 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 185 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Nematode larval **protease** proteins - useful for vaccination, etc

L4 ANSWER 186 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal against swine pox virus

L4 ANSWER 187 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal against swine pox virus

L4 ANSWER 188 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal against swine pox virus

L4 ANSWER 189 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Recombinant swine pox virus - useful in vaccine for immunising animal against swine pox virus

L4 ANSWER 190 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 191 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 192 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 193 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 194 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 195 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 196 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 197 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 198 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 199 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 200 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 201 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 202 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 203 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 204 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 205 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 206 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 207 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 208 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 209 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 210 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 211 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Filariid nematode larval nucleic acid - capable of hybridising with **Dirofilaria immitis** or Onchocerca volvulus L3 cysteine **protease**, to protect against parasitic helminth diseases

L4 ANSWER 212 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis**, putative pepsin inhibitor family protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 213 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis**, putative pepsin inhibitor family protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 214 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis**, putative pepsin inhibitor family protein DiT33 - useful for diagnosis of heartworm disease

L4 ANSWER 215 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development

L4 ANSWER 216 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development

L4 ANSWER 217 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development

L4 ANSWER 218 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development

L4 ANSWER 219 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 220 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 221 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 222 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 223 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI **Dirofilaria immitis astacin** metallo:endo:
peptidase and cysteine **protease** genes and proteins -
useful for protecting animals from parasitic-based diseases by inhibiting
parasite larval development

L4 ANSWER 224 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Thiol **proteases** with Cathepsin L-type activity - useful in vaccine formulations against helminth parasites

L4 ANSWER 225 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Thiol **proteases** with Cathepsin L-type activity - useful in vaccine formulations against helminth parasites

L4 ANSWER 226 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
TI Thiol **proteases** with Cathepsin L-type activity - useful in vaccine formulations against helminth parasites

L4 ANSWER 227 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 228 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 229 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 230 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 231 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 232 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 233 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 234 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): **Dirofilaria** and onchocerca larval L3 cysteine **protease** proteins and uses thereof

L4 ANSWER 235 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): A **Dirofilaria immitis** larval cDNA clone with homology to cysteine **proteases**
TITLE (TI): Direct Submission

L4 ANSWER 236 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Carboxy-terminal sequence divergence and processing of the polyprotein antigen from **Dirofilaria immitis**
TITLE (TI): Direct Submission

L4 ANSWER 237 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Cloning and expression of DiT33 from **Dirofilaria immitis**: a specific and early marker of heartworm infection
TITLE (TI): Direct Submission

L4 ANSWER 238 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Molecular cloning of a **Dirofilaria immitis** aspartyl **protease** inhibitor homologue
TITLE (TI): Direct Submission

L4 ANSWER 239 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Direct Submission
TITLE (TI): Molecular cloning and characterization of a novel neutrophil chemotactic factor from a filarial parasite

L4 ANSWER 240 OF 240 GENBANK.RTM. COPYRIGHT 1999

TITLE (TI): Isolation and expression of a gene which encodes a wall-associated proteinase of Coccidioides **immitis**

=> d his

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     (FILE 'HOME' ENTERED AT 12:31:32 ON 01 MAR 1999)

     INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, AIDSLINE, ANABSTR, AQUASCI,
     BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, CABA,
CANCERLIT,
     CAPLUS, CEABA, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE,
DRUGB,
     DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 12:31:41 ON 01 MAR 1999
                SEA (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTID
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               10   FILE AGRICOLA
               33   FILE BIOSIS
                6   FILE BIOTECHABS
                6   FILE BIOTECHDS
               22   FILE CABA
               31   FILE CAPLUS
                1   FILE CEABA
                1   FILE CIN
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               68   FILE DGENE
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                2   FILE JICST-EPLUS
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                2   FILE DPCI
                4   FILE EUROPATFULL
                1   FILE INPADOC
                1   FILE PATDPA
                2   FILE PATOSEP
                2   FILE PATOSWO
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PEPTID
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     FILE 'USPATFULL, DGENE, BIOSIS, CAPLUS, SCISEARCH, MEDLINE, CABA,
EMBASE,
     GENBANK, AGRICOLA, BIOTECHDS, IFIPAT, LIFESCI, PROMT, TOXLIT, WPIDS,
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L2          357 S L1
L3          357 S (DIROFILAR? OR IMMIT?) AND (ASTACIN? OR PROTEASE? OR
PEPTIDAS
L4          240 DUP REM L3 (117 DUPLICATES REMOVED)

=> d bib ab 14 3, 6, 14, 18, 19, 26, 36, 45, 47, 48, 49, 50, 52, 63, 65, 82,
86, 87, 89, 95, 97-98, 103, 128, 130, 145-148, 159-161, 168, 178, 216


L4   ANSWER 3 OF 240  USPATFULL
AN     1999:21726  USPATFULL
TI     Nematode vaccine
IN     Sharp, Phillip John, Glebe, Australia
       Wagland, Barry Maxwell, Carlingford, Australia
PA     Biotech Australia Pty. Limited, Roseville, Australia (non-U.S.
```

corporation)
Commonwealth Scientific and Industrial Research Organization, Campbell, Australia (non-U.S. corporation)
PI US 5871738 19990216
WO 9213890 19920820
AI US 92-930685 19921006 (7)
WO 92-AU41 19920206
19921006 PCT 371 date
19921006 PCT 102(e) date
PRAI AU 91-4487 19910206
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 1328
AB Disclosed is a substantially purified antigen derived from a first parasitic nematode species which, when administered to a host animal, is capable of protecting the host animal from infestation by a second parasitic nematode species, wherein the first and second parasitic nematode species may be the same or different, and the antigen has an apparent molecular weight of 40 kD as determined by SDS-PAGE under reducing conditions.

L4 ANSWER 6 OF 240 USPATFULL
AN 1999:12787 USPATFULL
TI Control of parasites
IN Atkinson, Howard John, Leeds, Great Britain
Koritsas, Vas Michael, Leeds, Great Britain
Lee, Donald Lewis, Leeds, Great Britain
MacGregor, Andrew Neilson, Canterbury, Great Britain
Smith, Judith Elizabeth, Leeds, Great Britain
PA The University of Leeds, Leeds, England (non-U.S. corporation)
PI US 5863775 19990126
WO 9523229 19950831
AI US 96-702682 19961220 (8)
WO 95-GB419 19950228
19961220 PCT 371 date
19961220 PCT 102(e) date
PRAI GB 94-3819 19940228
DT Utility
EXNAM Primary Examiner: Degen, Nancy
LREP Barrett, William A.; Hultquist, Steven J.
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN 11 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 1905
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method of combating an animal parasite in a host which comprises delivering an anti-parasitic protein to the parasite or to a locus thereof by administering the protein to the host animal as a medicament or as a food. The anti-parasitic protein may be an inhibitor of an enzyme of the parasite, for example an inhibitor of a digestive enzyme such as a cysteine **protease** inhibitor. The parasite may be a helminth or a protozoan, for example, a nematode. According to one embodiment the anti-parasitic protein is expressed in a transgenic plant which may be a dietary crop for the host animal.

L4 ANSWER 14 OF 240 USPATFULL DUPLICATE 4
AN 1998:39560 USPATFULL
TI Inhibitors of metazoan parasite **proteases**

IN Cohen, Fred E., San Francisco, CA, United States
McKerrow, James H., San Francisco, CA, United States
Kenyon, George L., San Francisco, CA, United States
Li, Zhe, Malden, MA, United States
Chen, Xiaowu, San Francisco, CA, United States
Gong, Baoqing, San Francisco, CA, United States
Li, Rongshi, San Diego, CA, United States
PA The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
PI US 5739170 19980414
AI US 95-413337 19950330 (8)
RLI Continuation-in-part of Ser. No. US 95-387760, filed on 28 Mar 1995, now
patented, Pat. No. US 5610192 which is a continuation-in-part of Ser. No. US 92-943925, filed on 11 Sep 1992, now abandoned
PRAI WO 93-US8708 19930911
DT Utility
EXNAM Primary Examiner: Spivack, Phyllis G.
LREP Townsend and Townsend and Crew LLP
CLMN Number of Claims: 9
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 755
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods are disclosed for treating a patient infected with a metazoan parasite by inhibiting the enzymatic action of the metazoan parasite **protease**, wherein there is employed at least one compound of formula I

A--X--B

wherein A is a substituted or unsubstituted homoaromatic ring system comprising one to three rings which bind to at least one of the S2, S1 and S1' subsites; B is a substituted or unsubstituted homoaromatic ring system comprising one to three rings which bind to at least one of the S1', S1 and S2 subsites; and X is --C.dbd.C--C(.dbd.O)--. These compositions and methods have particular utility in the treatment of schistosomiasis, malaria, and other infectious diseases.

L4 ANSWER 18 OF 240 USPATFULL
AN 1998:150726 USPATFULL
TI Vaccines against animal parasitic nematodes
IN Cobon, Gary Stewart, Frenchs Forest, Australia
Austen, Rosemary Ann, East Gosford, Australia
O'Donnell, Ian Joseph, Gardenvale, Australia
Frenkel, Maurice Joseph, South Caulfield, Australia
Kennedy, William Peter Keith, Willoughby, Australia
Savin, Keith William, Caulfield South, Australia
Wagland, Barry Maxwell, Carlingford, Australia
PA Biotech Australia Pty. Limited and Csiro, Australia (non-U.S. corporation)
PI US 5843710 19981201
AI US 95-482547 19950607 (8)
RLI Division of Ser. No. US 89-353658, filed on 2 May 1989
PRAI AU 87-2940 19870707
NZ 88-225295 19880507
CA 88-571319 19880607
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 2730
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Disclosed is the invention relates to proteins derived from parasitic nematodes which confer protective immunity against infection by parasitic nematodes, to nucleotide sequences encoding these proteins, to

recombinant molecules containing such sequences to host cells transformed with such recombinant molecules and methods for the production of the nucleotide sequences recombinant molecules and hosts. The invention also relates to vaccines comprising proteins of the invention together with suitable carriers or diluents and to antibodies raised against proteins of the invention.

L4 ANSWER 19 OF 240 USPATFULL
AN 1998:150722 USPATFULL
TI Vaccines against animal parasitic nematodes
IN Cobon, Gary Stewart, Frenchs Forest, Australia
Austen, Rosemary Ann, East Gosford, Australia
O'Donnell, Ian Joseph, Gardenvale, Australia
Frenkel, Maurice Joseph, South Caulfield, Australia
Kennedy, William Peter Keith, Willoughby, Australia
Savin, Keith William, Caulfield South, Australia
Wagland, Barry Maxwell, Carlingford, Australia
PA Biotechnology Australia Pty, Ltd., Roseville, Australia (non-U.S. corporation)
Commonwealth Scientific and Industrial Organization, Campbell, Australia
(non-U.S. government)
PI US 5843706 19981201
AI US 95-483812 19950607 (8)
RLI Continuation of Ser. No. US 89-353658, filed on 2 May 1989, now abandoned
PRAI AU 87-294 19870707
NZ 88-225295 19880705
CA 88-571319 19880706
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 26
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1357
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention disclosed relates to proteins derived from parasitic nematodes that confer protective immunity against infection by parasitic
nematodes, to nucleotide sequences encoding those proteins, to recombinant molecules containing such sequences, to host cells transformed with such recombinant molecules and methods for the production of the nucleotide sequences, recombinant molecules and hosts.
The invention also relates to vaccines comprising proteins of the invention together with suitable carriers or diluents and to antibodies raised against proteins of the invention.

L4 ANSWER 26 OF 240 USPATFULL
AN 1998:108039 USPATFULL
TI Parasitic nematode proteins and vaccines
IN Grieve, Robert B., La Porte, CO, United States
Frank, Glenn R., Fort Collins, CO, United States
PA Colorado State University Research Foundation, Ft. Collins, CO, United States (U.S. corporation)
Heska Corporation, Ft. Collins, CO, United States (U.S. corporation)
PI US 5804200 19980908
AI US 95-408120 19950320 (8)
RLI Continuation of Ser. No. US 93-3257, filed on 12 Jan 1993, now abandoned

which is a continuation-in-part of Ser. No. US 91-654226, filed on 12 Feb 1991, now abandoned
DT Utility
EXNAM Primary Examiner: Sidberry, Hazel F.
LREP Sheridan Ross P.C.
CLMN Number of Claims: 1
ECL Exemplary Claim: 1
DRWN 71 Drawing Figure(s); 36 Drawing Page(s)
LN.CNT 2303
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Immunogens derived from proteins isolatable from the L3 and L4 larval stages of nematodes parasitic in mammals, and including a protein of about 20.5 kD, are disclosed. The proteins of the invention are identified using biological materials verified to destroy or impair the parasitic nematode in an in vivo incubator. Cells, serum or fractions thereof obtained from immune natural hosts are validated in a method wherein a recoverable implant of the parasitic nematodes is used to assess the protective effect when these materials are provided passively to the animal incubator.

L4 ANSWER 36 OF 240 USPATFULL
AN 1998:34051 USPATFULL
TI Nematode vaccine
IN Sharp, Phillip John, Glebe, Australia
Wagland, Barry Maxwell, Carlingford, Australia
PA Biotech Australia Pty Limited, Roseville, Australia (non-U.S. corporation)
Commonwealth Scientific and Industrial Research Organisation, Campbell, Australia (non-U.S. corporation)
PI US 5734035 19980331
AI US 95-461005 19950605 (8)
RLI Division of Ser. No. US 92-930685, filed on 6 Oct 1992
PRAI AU 91-4487 19910206
DT Utility
EXNAM Primary Examiner: Hutzell, Paula K.; Assistant Examiner: Masood, Khalid
LREP Foley & Lardner
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 1344
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed is a substantially purified antigen derived from a first parasitic nematode species which, when administered to a host animal, is capable of protecting the host animal from infestation by a second parasitic mematode species, wherein the first and second parasitic nematode species may be the same or different, and the antigen has an apparent molecular weight of 40 kD as determined by SDS-PAGE under reducing conditions.

L4 ANSWER 45 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
AN 1998:625011 SCISEARCH
GA The Genuine Article (R) Number: 109PG
TI Effect of **protease** class-specific inhibitors on in vitro development of the third- to fourth-stage larvae of Ascaris suum
AU Rhoads M L (Reprint); Fetterer R H; Urban J F
CS USDA ARS, INST LIVESTOCK & POULTRY SCI, PARASITE BIOL & EPIDEMIOL LAB, BELTSVILLE, MD 20705 (Reprint)
CYA USA
SO JOURNAL OF PARASITOLOGY, (AUG 1998) Vol. 84, No. 4, pp. 686-690.
Publisher: AMER SOC PARASITOLOGISTS, 810 EAST 10TH STREET, LAWRENCE, KS 66044.
ISSN: 0022-3395.
DT Article; Journal

FS LIFE; AGRI
LA English
REC Reference Count: 21
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Third-stage larvae (L3) of Ascaris suum develop and molt to fourth-stage larvae (L4) during in vitro cultivation; consistently greater than 80% of the larvae develop to L4 during 7 days in culture (DIC). To assess the role of **proteases** in this process, the effect of **protease** class-specific inhibitors was studied. The presence of either a serine **protease** inhibitor (AEBSF, 100 mu M) or an aspartic **protease** inhibitor (pepstatin A, 100 mu M) had no effect on the percentage of L4 after 7 DIG. However, the presence of either a cysteine **protease** inhibitor (Z-Phe-Ala-FMK, 100 mu M) or an aminopeptidase inhibitor (amastatin, 100 mu M) resulted in 77% and 34% reductions, respectively, in the percentage of L4 compared to untreated cultures; viability of the larvae was not affected. The effect of Z-Phe-Ala-FMK on molting was time and dose dependent. In contrast to Z-Phe-Ala-FMK, E-64, another specific inhibitor of cysteine **proteases**, had no effect on molting. The data support a role for an amino-**peptidase** and suggest a role for a cysteine **protease** in the development of the L3 to L4 stage of A. suum.

L4 ANSWER 47 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:500900 PROMT
TI Heska granted six patents for novel vaccine delivery system, flea allergens and heartworm antigens
SO BIOTECH Patent News, (1 Sep 1998) pp. N/A.
ISSN: 0898-2813.
LA English
WC 844
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB Heska Corporation (Ft. Collins, CO; 970-493-7272) announced the recent issuance of six patents by the United States Patent and Trademark Office: one for a novel vaccine delivery system, one for novel flea allergens and four covering novel heartworm antigens.
"The vaccine delivery system patent is the second in Heska's portfolio of patents covering the use of a recombinant canine herpes virus to deliver genes to animals in a safe and effective manner," said Dr. Robert Grieve, Heska's chief scientific officer. "The patent covering novel allergens that cause flea bite allergy in animals is the second United States patent to issue in that portfolio and is relevant to our ongoing efforts of producing flea bite allergy diagnostics, immunotherapeutics and vaccines. In addition, four that cover heartworm antigens are members of Heska's portfolio of proprietary heartworm genes and proteins that may be used in heartworm vaccines currently in development."
The novel delivery system, based on canine herpes virus, is advantageous for the delivery of genes to animals. Canine herpes virus, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for delivery of genes to dogs. In addition, canine herpes virus -based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time.
United States Patent 5,804,197, entitled "Recombinant Canine Herpesviruses," issued on September 8, 1998. The patent claims a number of canine herpesvirus genes, in addition to those claimed in United States Patent 5,753,235, which issued earlier this year. Also claimed are recombinant canine herpesvirus vectors and genomes, as well as their use to deliver other genes to a dog. These genes can be expressed as proteins to protect an animal from disease or to otherwise benefit the health of an animal.

L4 ANSWER 48 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:476412 PROMT
TI Heska Granted Six Patents for Novel Vaccine Delivery System, Flea Allergens and Heartworm Antigens
SO PR Newswire, (15 Sep 1998) pp. 0915LATU085.
LA English
WC 1192
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB FORT COLLINS, Colo., Sept. 15 /PRNewswire/ -- Heska Corporation (Nasdaq: HSKA) announced today the recent issuance of six patents by the U.S. Patent and Trademark Office: one for a novel vaccine delivery system, one for novel flea allergens and four covering novel heartworm antigens.
"The vaccine delivery system patent is the second in Heska's portfolio of patents covering the use of a recombinant canine herpesvirus (CHV) to deliver genes to animals in a safe and effective manner," said Dr. Robert Grieve, Heska's chief scientific officer. "The patent covering novel allergens that cause flea bite allergy in animals is the second US patent to issue in that portfolio and is relevant to our ongoing efforts of producing flea bite allergy diagnostics, immunotherapeutics and vaccines. In addition, four that cover heartworm antigens are members of Heska's portfolio of proprietary heartworm genes and proteins that may be used in heartworm vaccines currently in development."
The novel delivery system, based on CHV, is advantageous for the delivery of genes to animals. CHV, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for delivery of genes to dogs. In addition, CHV-based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time.
U.S. Patent No. 5,804,197, entitled "Recombinant Canine Herpesviruses," issued on September 8, 1998. The patent claims a number of canine herpesvirus genes, in addition to those claimed in U.S. Patent No. 5,753,235, which issued earlier this year. Also claimed are recombinant canine herpesvirus vectors and genomes, as well as their use to deliver other genes to a dog. These genes can be expressed as proteins to protect an animal from disease or to otherwise benefit the health of an animal.

L4 ANSWER 49 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:302494 PROMT
TI Heska Granted Six Patents for Novel Vaccine Delivery Systems, Flea Control and Heartworm Antigens
SO PR Newswire, (22 Jun 1998) pp. 0622LAM082.
LA English
WC 1303
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB FORT COLLINS, Colo., June 22 /PRNewswire/ -- Heska Corporation (Nasdaq: HSKA) announced today the recent issuance of six patents by the U.S. Patent and Trademark Office: two for novel vaccine delivery systems, two for novel flea control targets and two patents covering antigens important in heartworm disease.
"The vaccine delivery system patents represent technological tools for developing new companion animal vaccines," said Dr. Robert Grieve, Heska's chief scientific officer. "These systems are designed to use either a recombinant canine herpesvirus (CHV) or a Sindbis virus to deliver genes to animals in a safe and effective manner. In addition, two patents cover heartworm antigens that are members of Heska's portfolio of proprietary heartworm genes and proteins. We believe that our heartworm vaccines may

require more than one antigen to accomplish the most desirable efficacy. These new patents add to the potential for creating multiple antigen vaccines. Flea control has been an area where we have devoted a great deal of research effort. The patents issued in this area are relevant to our goals of developing flea control vaccines and pharmaceuticals."
The two novel delivery systems, based on CHV and Sindbis virus respectively, are advantageous for the delivery of genes to animals. CHV, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for gene delivery. In addition, CHV-based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time. Sindbis virus, which is not associated with disease in companion animals, can deliver genes to a wide variety of animals. In addition, Heska's novel technology is designed to optimize the safety of a Sindbis-based delivery system in that infectious Sindbis virus are not produced in the treated animal.

L4 ANSWER 50 OF 240 PROMT COPYRIGHT 1999 IAC

AN 1998:321268 PROMT
TI Heska granted six patents for vaccine delivery systems, flea Control and heartworm antigens
Received patents for vaccines for flea and heartworm control
SO BIOTECH Patent News, (1 Jun 1998) pp. N/A.
ISSN: 0898-2813.
LA English
WC 943
FULL TEXT IS AVAILABLE IN THE ALL FORMAT
AB Heska Corporation (Fort Collins, CO; 970-493-7272) announced the recent issuance of six patents by the United States Patent and Trademark Office: two for novel vaccine delivery systems, two for novel flea control targets and two patents covering antigens important in heartworm disease. "The vaccine delivery system patents represent technological tools for developing new companion animal vaccines," said Dr. Robert Grieve, Heska's chief scientific officer. "These systems are designed to use either a recombinant canine herpesvirus or a Sindbis virus to deliver genes to animals in a safe and effective manner. In addition, two patents cover heartworm antigens that are members of Heska's portfolio of proprietary heartworm genes and proteins. We believe that our heartworm vaccines may require more than one antigen to accomplish the most desirable efficacy. These new patents add to the potential for creating multiple antigen vaccines. Flea control has been an area where we have devoted a great deal of research effort. The patents issued in this area are relevant to our goals of developing flea control vaccines and pharmaceuticals." The two novel delivery systems, based on canine herpesvirus and Sindbis virus respectively, are advantageous for the delivery of genes to animals. canine herpesvirus, unlike most herpesviruses, does not cause disease except in very young puppies and is thought to be a safe vehicle for gene delivery. In addition, canine herpesvirus -based recombinant vaccines allow for the delivery of multiple antigen-encoding genes at one time. Sindbis virus, which is not associated with disease in companion animals, can deliver genes to a wide variety of animals. In addition, Heska's novel technology is designed to optimize the safety of a Sindbis-based delivery system in that infectious Sindbis virus are not produced in the treated animal. United States Patent 5,753,235, entitled "Recombinant Canine Herpesviruses", issued on May 19, 1998. The patent claims a number of canine herpesvirus genes. Also claimed are recombinant canine herpesvirus vectors and genomes that carry other genes, such as antigen-encoding genes, as well as use of such vectors and genomes to deliver genes to a

dog. United States Patent 5,766,602, entitled "Recombinant Packaging-Defective Sindbis Virus Vaccines", issued on June 16, 1998. The patent claims a method for delivering genes to an animal using a packaging-defective Sindbis virus particle.
THIS IS AN EXCERPT: COPYRIGHT 1998 BIOTECH Patent News

L4 ANSWER 52 OF 240 USPATFULL DUPLICATE 7
AN 97:20561 USPATFULL
TI Inhibitors of metazoan parasite **proteases**
IN Cohen, Fred E., San Francisco, CA, United States
McKerrow, James H., San Francisco, CA, United States
Ring, Christine S., San Francisco, CA, United States
Rosenthal, Philip J., Nicasio, CA, United States
Kenyon, George L., San Francisco, CA, United States
Li, Zhe, San Francisco, CA, United States
PA The Regents of the University of California, Oakland, CA, United States (U.S. corporation)
PI US 5610192 19970311
WO 9406280 19940331
AI US 95-387760 19950328 (8)
WO 93-US8708 19930913
19950328 PCT 371 date
19950328 PCT 102(e) date
RLI Continuation-in-part of Ser. No. US 92-943925, filed on 11 Sep 1992, now
abandoned
DT Utility
EXNAM Primary Examiner: Spivack, Phyllis G.
LREP Robbins, Berliner & Carson, LLP
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1066
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for treating a patient infected with a metazoan
parasite by inhibiting the enzymatic action of the metazoan parasite **protease**. The compositions comprise at least one metazoan **protease** inhibitor which binds to the S2 subsite and at least one of the S1 and S1' subsites of the metazoan parasite **protease**. The methods comprise administration to a patient infected with a metazoan parasite of at least one metazoan **protease** inhibitor in an amount effective to inhibit the **protease** of the metazoan parasite, thereby killing the parasite.

L4 ANSWER 63 OF 240 USPATFULL
AN 97:56524 USPATFULL
TI Production and purification of a protein fused to a binding protein
IN Guan, Chudi, Wenham, MA, United States
Inouye, deceased,, Hiroshi, late of Philadelphia, PA, United States
Chang, administrator, Frank N., Dresher, PA, United States
PA New England Biolabs, Inc., Beverly, MA, United States (U.S. corporation)
Temple University, Philadelphia, PA, United States (U.S. corporation)
PI US 5643758 19970701
AI US 95-374145 19950112 (8)
RLI Continuation of Ser. No. US 93-19981, filed on 17 Feb 1993 which is a continuation of Ser. No. US 91-737596, filed on 25 Jul 1991, now abandoned which is a continuation of Ser. No. US 88-196988, filed on 20 May 1988, now abandoned which is a continuation-in-part of Ser. No. US 87-24053, filed on 10 Mar 1987, now abandoned
DT Utility
EXNAM Primary Examiner: Guzo, David; Assistant Examiner: Schwartzman, Robert
LREP Williams, Gregory D.; Corless, Peter F.
CLMN Number of Claims: 24

ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 11 Drawing Page(s)
LN.CNT 1313
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods and products are provided for producing and/or purifying virtually any hybrid polypeptide molecule employing recombinant DNA techniques. More specifically, a DNA fragment coding for a protein molecule, e.g. a polypeptide or portion thereof, is fused to a DNA fragment coding for a binding protein, such as the gene coding for the maltose binding protein. The fused DNA is inserted into a cloning vector and an appropriate host transformed. Upon expression, a hybrid polypeptide is produced which can be purified by contacting the hybrid polypeptide with a ligand or substrate to which the binding protein has specific affinity, e.g. by affinity chromatography. The hybrid polypeptide so purified may in certain instances be useful in its hybrid form, or it may be cleaved to obtain the protein molecule itself by, for example, linking the DNA fragments coding for the target and binding proteins with a DNA segment which codes for a peptide which is recognized and cut by a **proteolytic enzyme**, such as Factor Xa. The present invention also relates to certain vectors useful in practicing the above process.

L4 ANSWER 65 OF 240 USPATFULL
AN 97:52122 USPATFULL
TI Nucleic acid molecules encoding novel parasitic helminth proteins
IN Tripp, Cynthia Ann, Ft. Collins, CO, United States
Frank, Glenn Robert, Ft. Collins, CO, United States
Grieve, Robert B., Ft. Collins, CO, United States
PA Heska Corporation, Ft. Collins, CO, United States (U.S. corporation)
Colorado State University Research Foundation, Ft. Collins, CO, United States (U.S. corporation)
PI US 5639876 19970617
AI US 93-109391 19930819 (8)
RLI Continuation-in-part of Ser. No. US 93-3257, filed on 12 Jan 1993, now abandoned Ser. No. Ser. No. US 93-3389, filed on 12 Jan 1993, now abandoned And Ser. No. US 91-654226, filed on 12 Feb 1991, now abandoned , said Ser. No. US -3257 And Ser. No. US -3389 , each Ser. No. US - which is a continuation-in-part of Ser. No. US -654226
DT Utility
EXNAM Primary Examiner: Sidberry, Hazel F.
LREP Sheridan Ross P.C.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2327
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to isolated parasitic helminth nucleic acid sequences capable of hybridizing, under stringent conditions, to at least a portion of D. **immitis** nucleic acid sequence p4 and/or to at least a portion of D. **immitis** nucleic acid sequence p22U; to isolated parasitic helminth proteins that are encoded by such parasitic helminth nucleic acid sequences and that are capable of selectively binding to at least one component of immune serum capable of inhibiting helminth development; and to antibodies raised against such isolated parasitic helminth proteins. The present invention also relates to therapeutic compositions comprising such isolated nucleic acid sequences, proteins and/or antibodies. The present invention also includes methods to produce and use such nucleic acids, proteins,

antibodies and therapeutic compositions capable of protecting animals from parasitic helminth infection and, particularly, from heartworm infection.

L4 ANSWER 82 OF 240 TOXLIT
AN 1997:46944 TOXLIT
DN CA-126-127883R
TI Cloning of filariid nematode cysteine **protease** cDNA, treatment of infection, and assays for inhibitors of the **protease**.
AU Wisnewski N; Grieve RB; Frank GR; Tripp CA
SO (1996). PCT Int. Appl. PATENT NO. 96 40884 12/19/96 (Colorado State University Research Foundation).
CY United States
DT Patent
FS CA
LA English
OS CA 126:127883
EM 199706
AB The present invention provides for filariid cysteine **protease** proteins; to filariid nematode cysteine **protease** nucleic acid mols., in particular, **Dirofilaria immitis** L3 larval cysteine **protease** nucleic acid mols. and Onchocerca volvulus L3 larval cysteine **protease** nucleic acid mols.; to antibodies raised against such proteins, and to compds. that inhibit filariid nematode cysteine **protease** activity. The present invention also includes methods to obtain such proteins, nucleic acid mols., antibodies and/or inhibitors. The present invention also includes therapeutic compns. comprising such proteins, nucleic acid mols., antibodies and/or inhibitors, and the use of such compns. to protect an animal from disease caused by parasitic helminths. The cDNA's for **Dirofilaria immitis** and Onchocerca volvulus cysteine proteinase were cloned, sequenced, and expressed in bacteria, insect cells, and mammalian cells.

L4 ANSWER 86 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 11
AN 1997:24126 BIOSIS
DN PREV199799323329
TI Carboxy-terminal sequence divergence and processing of the polyprotein antigen from **Dirofilaria immitis**.
AU Poole, Catherine B.; Hornstra, Linda J.; Benner, Jack S.; Fink, Jason R.; McReynolds, Larry A. (1)
CS (1) Mol. Parasitol. Div., New England Biolabs, Beverly, MA 01915 USA
SO Molecular and Biochemical Parasitology, (1996) Vol. 82, No. 1, pp. 51-65.
ISSN: 0166-6851.
DT Article
LA English
AB A polyprotein composed of multiple units arranged in direct tandem arrays has been identified in parasitic and free living nematodes. Analysis of previously cloned units from the **Dirofilaria immitis** polyprotein antigen (DiPA) indicated the units were nearly identical but here we demonstrate that they segregate into two related families. The consensus repeats, DiPA-CR1 and CR2, derived for each family are 80% identical. However, the repeats at the C-terminus of the polyprotein have diverged from DiPA-CR1 and CR2. This was shown by DNA sequence and Southern blot analysis of a 1.9 kb cDNA clone that encodes 4.4 C-terminal repeats (DiPA-TR1 through TR5). DiPA-TR3 through TR5 show 27-52% amino acid identity with the consensus repeats and 31-35% amino acid identity with one another. Metabolic labeling studies have shown that cleavage of DiPA generates a protein 'ladder' from 14 to gt 200 kDa. RRKR, a cleavage motif of subtilisin-like proprotein convertases, was identified as the natural cleavage site. In vitro digestion experiments with proteinase K suggest a structural model for DiPA consisting of **protease** resistant cores joined by **protease** sensitive linkers containing the RRKR site. This motif is absent between DiPA-TR3 and TR4 and has been altered to KR between DiPA-TR4 and TR5. An immunoblot of D.

immitis extract probed with anti-DiPA-TR4/5 serum demonstrates the absence of cleavage at these sites. These divergent repeats provide an opportunity to investigate processing of the D. **immitis** polyprotein in vivo.

L4 ANSWER 87 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 12
AN 1996:134110 CAPLUS
DN 124:169381
TI Cloning of cDNA for parasitic **proteases** and their uses for preparing anti-parasite agents
IN Tripp, Cynthia Ann; Frank, Glenn R.; Grieve, Robert B.
PA Paravax, Inc., USA
SO PCT Int. Appl., 120 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9532988	A1	19951207	WO 95-US6685	19950525
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	CA 2189741	AA	19951207	CA 95-2189741	19950525
	AU 9526516	A1	19951221	AU 95-26516	19950525
	EP 766693	A1	19970409	EP 95-921435	19950525
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE				
	JP 10500854	T2	19980127	JP 95-530582	19950525
	US 5691186	A	19971125	US 95-463262	19950605
	US 5750391	A	19980512	US 95-463989	19950605
PRAI	US 94-249552		19940526		
	WO 95-US6685		19950525		

AB The cDNAs encoding **astacin metalloendopeptidase** protein of **Dirofilaria immitis** (heartworm) and filariid cysteine **protease** protein are isolated and characterized., nucleic acid mols. having sequences that encode such proteins, antibodies raised against such proteins and compds. that can inhibit the activities of parasite **astacin metalloendopeptidases** or cysteine **proteases**. The cDNA can be used for the prodn. of the proteins and the antibodies against the proteins. The cDNAs and the antibodies are useful in the prepn. of anti-parasite compns.

L4 ANSWER 89 OF 240 BIOTECHDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96-02647 BIOTECHDS
TI Parasite **protease** genes and proteins; nematode recombinant **astacin metalloendopeptidase** and cystein **protease** production, for application in parasite infection therapy
AU Tripp C A; Frank G R; Grieve R B
PA Paravax
LO Fort Collins, CO, USA.
PI WO 9532988 7 Dec 1995
AI WO 95-US6685 25 May 1995
PRAI US 94-249552 26 May 1994
DT Patent
LA English
OS WPI: 96-049308 [05]
AB The following are claimed: (1) an isolated parasite nucleic acid (I), hybridizing under strict conditions to a Divofilaria **immitis** **astacin metalloendopeptidase** (AMEP) gene; (2) an

isolated protein (A) composed of the AMEP protein; (3) an isolated filariid nematode nucleic acid (II), hybridizing under strict conditions to a D. **immitis** cysteine **protease** (CP) gene; (4) an isolated protein (B), composed of the CP protein of a filariid nematode; (5) a recombinant cell with at least one nucleic acid of (I) or (II), and capable of expressing the nucleic acid; and (6) an isolated antibody capable of selectively binding to protein (A) or (B). (A) and (B) are useful, in a therapeutic composition for protecting animals from diseases caused by parasites susceptible to an inhibitor of the AMEP or CP **proteases**. Mimetopes of (A) or (B) or nucleic acids (I) or (II), or antibodies to (A) or (B) or inhibitors of (A) or (B) can be used i place of the full **proteases**. (A) or (B) can also be used as fusion proteins or multivalent proteins. (121pp)

L4 ANSWER 95 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
AN 95:87993 SCISEARCH
GA The Genuine Article (R) Number: QC635
TI IMMUNODIAGNOSTIC POTENTIAL OF A FILARIAL **PROTEASE**
AU BAL M (Reprint); DAS M K
CS REG MED RES CTR, DIV PARASITE IMMUNOL, BHUBANESWAR 751016, ORISSA, INDIA (Reprint)
CYA INDIA
SO CURRENT SCIENCE, (25 DEC 1994) Vol. 67, No. 12, pp. 1018-1020. ISSN: 0011-3891.
DT Note; Journal
FS AGRI
LA ENGLISH
REC Reference Count: 12
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB An antigenic fraction has been isolated from adult worms of cattle filarial parasite Setaria digitata. The fraction exhibited high **protease** activity against azocoll with optimum pH at 7.0. Elevated levels of antibodies to the **protease** were observed in asymptomatic microfilaraemic individuals compared to the normal people of endemic regions. Such distinction was however not observed with the whole antigenic extracts of adult worms. The potential of the **protease** as immunodiagnostic antigen is indicated.

L4 ANSWER 97 OF 240 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 15
AN 1993:503307 CAPLUS
DN 119:103307
TI **Protease** vaccine against heartworm
IN Grieve, Robert B.; Richer, Jennifer; Frank, Glenn R.; Sakanari, Judy
PA Colorado State University Research Foundation, USA
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 7

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9310225	A1	19930527	WO 92-US9702	19921112
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	AU 9230723	A1	19930615	AU 92-30723	19921112
	AU 675214	B2	19970130		
	EP 635058	A1	19950125	EP 92-924400	19921112
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, SE				
	JP 07501219	T2	19950209	JP 92-509382	19921112
PRAI	US 91-792209	19911112			
	WO 92-US9702	19921112			

AB Animals are administered with an effective amt. of a metalloprotease and/or cysteine **protease**, which is obtainable from filarial

nematode lysates in third larval stage (L3) or fourth stage (L4), to immunol. protect the subjects against filarial infection. **Dirofilaria immitis** was cultured and a **protease** was obtained by purifying L3/L4 lysates with a column chromatog. and assaying fractions for proteolytic activity on synthetic substrates, i.e. benzyloxycarbonyl-Val-Leu-Arg-7-amido-4-methylcoumarin and Phe-7-amido-4-methylcoumarin.

L4 ANSWER 98 OF 240 TOXLIT
AN 1993:91805 TOXLIT
DN CA-119-103307K
TI **Protease** vaccine against heartworm.
AU Grieve RB; Richer J; Frank GR; Sakanari J
SO (1993). PCT Int. Appl. PATENT NO. 93 10225 05/27/93 (Colorado State University Research Foundation).
CY United States
DT Patent
FS CA
LA English
OS CA 119:103307
EM 199310
AB Animals are administered with an effective amt. of a metalloprotease and/or cysteine **protease**, which is obtainable from filarial nematode lysates in third larval stage (L3) or fourth stage (L4), to immunol. protect the subjects against filarial infection. **Dirofilaria immitis** was cultured and a **protease** was obtained by purifying L3/L4 lysates with a column chromatog. and assaying fractions for proteolytic activity on synthetic substrates, i.e. benzyloxycarbonyl-Val-Leu-Arg-7-amido-4-methylcoumarin and Phe-7-amido-4-methylcoumarin.

L4 ANSWER 103 OF 240 CAPLUS COPYRIGHT 1999 ACS
AN 1994:102602 CAPLUS
DN 120:102602
TI **Proteases** produced by **Dirofilaria immitis** third- and fourth-stage larvae
AU Richer, Jennifer K.
CS Colorado State Univ., Fort Collins, CO, USA
SO (1992) 74 pp. Avail.: Univ. Microfilms Int., Order No. DA9231823 From: Diss. Abstr. Int. B 1992, 53(6), 2599
DT Dissertation
LA English
AB Unavailable

L4 ANSWER 128 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 26
AN 1987:337867 BIOSIS
DN BA84:46810
TI PROTEOLYTIC CLEAVAGE OF IGG AND OTHER PROTEIN SUBSTRATES BY **DIROFILARIA-IMMITIS** MICROFILARIAL ENZYMES.
AU TAMASHIRO W K; RAO M; SCOTT A L
CS DEP. IMMUNOL. INFECTIOUS DISEASES, SCH. HYGIENE PUBLIC HEALTH, JOHN HOPKINS UNIV., BALTIMORE, MD. 21205.
SO J PARASITOL, (1987) 73 (1), 149-154.
CODEN: JOPAA2. ISSN: 0022-3395.
FS BA; OLD
LA English
AB **Proteases** were detected in aqueous extracts of **Dirofilaria immitis** microfilariae. Enzymes within the extract were capable of hydrolyzing Azocoll, a general **protease** substrate, at pH's 7, 8, and 9. Sensitivities to a variety of **protease** inhibitors indicated that multiple azocollytic enzymes were present in the extract, most prominent of which appear to belong to the serine class of **proteases**. By incorporating various substrates into the matrices of polyacrylamide gels, 2 SDS-resistant, mercaptoethanol-sensitive **proteases** in the MF extract were

identified at 22 and 76 kDa. These **proteases** showed differential abilities to digest casein, fibrinogen, hemoglobin, and IgG. The MF extract hydrolyzed radiolabeled IgG into 8-10-kDa fragments following a 20-hr incubation. A similar degree of digestion was observed in 2 hr when viable microfilariae were used. The potential significance of these **proteases** in the evasion of host effector mechanisms is discussed.

L4 ANSWER 130 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 27
AN 1986:195065 BIOSIS
DN BR30:106937
TI **PROTEOLYTIC ENZYMES** IN EXTRACTS OF **DIROFILARIA -IMMITIS** MICROFILARIAE.
AU SCOTT A L; TAMASHIRO W K; RAO M
CS JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD. 21205.
SO SYMPOSIUM ON MOLECULAR STRATEGIES OF PARASITIC INVASION HELD AT THE 15TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) MEETING ON MOLECULAR AND CELLULAR BIOLOGY, LOS ANGELES, CALIF., USA, JAN. 26-31, 1986. J CELL BIOCHEM SUPPL. (1986) 0 (10 PART A), 174.
CODEN: JCBSD7.
DT Conference
FS BR; OLD
LA English

L4 ANSWER 145 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS
AN 1980:18896 BIOSIS
DN BR18:18896
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.
AU KLIMOVA I M; GOLOSEEV YU A; SHELOKHOVICH A I
CS VOLGOGR. ANTIPLAGUE SCI. RES. INST., VOLGOGRAD, USSR.
SO Biochemistry (Engl. Transl.), (1978 (1979)) 43 (11 PART 2), 1629-1632.
CODEN: BIORAK. ISSN: 0006-2979.
FS BR; OLD
LA English

L4 ANSWER 146 OF 240 BIOSIS COPYRIGHT 1999 BIOSIS DUPLICATE 35
AN 1979:222230 BIOSIS
DN BA68:24734
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**.
AU KLIMOVA I M; GOLOSEEV YU A; SHELOKHOVICH A I
CS VOLGOGR. ANTIPLAGUE RES. INST., VOLGOGRAD, USSR.
SO BIOKHIMIYA, (1978 (RECD 1979)) 43 (11), 2069-2073.
CODEN: BIOHAO. ISSN: 0006-307X.
FS BA; OLD
LA Russian
AB Glycyl-L-leucine hydrolase consisting of 3 molecular units was extracted from C. **immitis** solid cultural medium. During fractionation in polyacrylamide gel of the enzyme-containing extract a 50-fold purification of the enzyme isoform with a 12,800 MW is achieved. The enzyme is heat-stable, active in the narrow pH range and hydrolyzes peptide bonds containing glycine. Its activity is not inhibited by any of the **protease** inhibitors tested.

L4 ANSWER 147 OF 240 AGRICOLA
AN 79:14368 AGRICOLA
DN IND79012311
TI **Peptidase** activity of Coccidioides **immitis** Fungus.
AU Klimova, I.M.; Goloseev, IU.A.; Shelokhovich, A.I.
AV DNAL (385 B523)
SO Biokhimiia, Nov 1978 Vol. 43, No. 11. p. 2069-2073 ill
Publisher: Moskva, Akademiia nauk SSSR
ISSN: 0006-307X
NTE 8 ref.
DT Article
LA Russian

SL English

L4 ANSWER 148 OF 240 SCISEARCH COPYRIGHT 1999 ISI (R)
AN 79:271235 SCISEARCH
GA The Genuine Article (R) Number: GZ114
TI **PEPTIDASE** ACTIVITY OF COCCIDIOIDES-**IMMITIS**
AU KLIMOVA I M (Reprint); GOLOSEEV Y A; SHELOKHOVICH A I
CS VOLGOGRAD ANTIPLAGUE RES INST, VOLGOGRAD, USSR (Reprint)
CYA USSR
SO BIOCHEMISTRY-RUSSIA, (1978) Vol. 43, No. 11, pp. 1629-1632.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 9

L4 ANSWER 159 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98P-W69546 Protein DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an Onchocerca volvulus L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 160 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98P-W69545 Protein DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a

Dirofilaria immitis L3 larval cysteine **protease** gene and/or an Onchocerca volvulus L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 161 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98P-W69544 Protein DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents an L3 larval **protease** protein from Onchocerca volvulus. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an Onchocerca volvulus L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. This sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

L4 ANSWER 168 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96P-R87592 Protein DGENE
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development
IN Frank G R; Grieve R B; Tripp C A
PA (PARA-N) PARAVAX INC
PI WO 9532988 A1 951207 121 pp
AI WO 95-US6685 950525
PRAI US 94-249552 940526
DT Patent
LA English
OS 96-049308 [05]
AB R87592 is derived from a genomic DNA sequence representing a partial **Dirofilaria immitis** cysteine **protease** (CP) gene encoding a 47 amino acid protein having homology with parasite specific CPs e.g. CP from Trypanosoma brucei, Leishmania pifanoi, Leishmania mexicana, Trypanosoma congolense and Trichomonas vaginalis, the CP also shares homology with that of nematodes C. elegans and H. contortus. The encoded CP protein is useful in therapeutic compsns. for protecting animals against diseases caused by parasites susceptible to CP inhibitors. Mimetopes of CP or nucleic acids encoding the CP, anti-CP

antibodies or other inhibitors of CP (not specified) may be used in place of the full **protease**. The CP may also be used as a fusion protein or multivalent protein

L4 ANSWER 178 OF 240 DGENE COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 98N-V40253 DNA DGENE
TI Nematode larval **protease** proteins - useful for vaccination, etc
IN Frank G R; Grieve R B; Richer J K; Tripp C A; Wisnewski N
PA (HESK-N) HESKA CORP
(COLS) UNIV COLORADO STATE RES FOUND
PI US 5792624 A 980811 22 pp
AI US 95-482282 950607
PRAI US 95-482282 950607
US 91-654226 910212
US 91-792209 911112
US 93-101283 930803
US 93-153554 931116
DT Patent
LA English
OS 98-456128 [39]
AB The present sequence represents a PCR primer for an L3 larval **protease** protein from **Dirofilaria immitis**. An embodiment of the present invention is an isolated filariid nematode nucleic acid molecule that hybridises, under stringent hybridisation conditions, with a **Dirofilaria immitis** L3 larval cysteine **protease** gene and/or an Onchocerca volvulus L3 larval cysteine **protease** gene. A filariid nematode cysteine **protease** protein of the present invention preferably has cysteine **protease** activity and/or comprises a protein that, when administered to an animal, is capable of eliciting an immune response against a natural helminth cysteine **protease** protein. The L3 larval cysteine **protease** sequence can be used in a therapeutic composition capable of protecting an animal from disease caused by a parasitic helminth

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AN 96N-T18866 DNA DGENE
TI **Dirofilaria immitis astacin** metallo:endo: **peptidase** and cysteine **protease** genes and proteins - useful for protecting animals from parasitic-based diseases by inhibiting parasite larval development
IN Frank G R; Grieve R B; Tripp C A
PA (PARA-N) PARAVAX INC
PI WO 9532988 A1 951207 121 pp
AI WO 95-US6685 950525
PRAI US 94-249552 940526
DT Patent
LA English
OS 96-049308 [05]
AB T18866 and T18867 are primers used in the cloning and sequencing of DNA encoding a partial **Dirofilaria immitis** cysteine **protease** (CP) gene. CP proteins are useful in therapeutic compsns. for protecting animals against diseases caused by parasites susceptible to CP inhibitors. Mimetopes of CP or nucleic acids encoding the CP, anti-CP antibodies or other inhibitors of CP (not specified) may be used in place of the full **protease**. CP may also be used as a